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“The Right to Information, The Right to Live”

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“Step Out From the Old to the New”

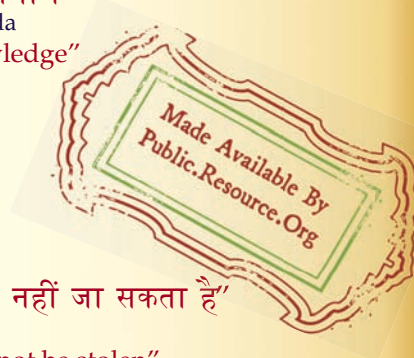
IS 2066 (1962): Coding and classification for non-ferrous scrap metals and residues [MTD 7: Light Metals and their Alloys]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard

**CODING AND CLASSIFICATION
FOR NON-FERROUS SCRAP
METALS AND RESIDUES**

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Indian Standard

CODING AND CLASSIFICATION FOR NON-FERROUS SCRAP METALS AND RESIDUES

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Indian Standard

CODING AND CLASSIFICATION FOR NON-FERROUS SCRAP METALS AND RESIDUES

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 31 March 1962, after the draft finalized by the Metal Standards Sectional Committee had been approved by the Structural and Metals Division Council.

0.2 This standard has been prepared with a view to facilitating trade by establishing a generally recognized usage and to eliminate ambiguity and confusion arising from individual interpretation of terms commonly used in the trade in the field of non-ferrous scrap metals and residues. At the moment, this standard covers such arisings of scrap metals and residues which are most frequently dealt with in India. It does not purport to cover all the grades of material, and these categories that are not included in this standard shall be subject to negotiation between the purchaser and the supplier.

0.3 Code words have been included in this standard to designate different types of scrap metals and residues. USA, which happens to be the biggest producer and consumer of scrap metals in the world, follows a system of code words which include words such as 'Candy', 'Dream', 'Grape', 'Honey', 'Night', 'Ocean', 'Scrub', 'Table', 'Tooth', 'Tough', 'Taboo', etc. However, the Committee responsible for the preparation of this standard felt that the designation of scrap metals and residues should be of Indian origin and should be such as can easily be distinguished and communicated over the telephone, telegraph, teleprinter etc. As such, most of the code words included in the standard have been chosen from the names of railway stations in India and no code word exceeds six letters.

0.4 In the formulation of this standard, considerable assistance has been drawn from Standard Classification for Non-Ferrous Scrap Metals (Circular NF-58) published by the National Association of Waste Material Dealers, Inc., New York. This publication is being followed to a large extent in all international dealings.

0.5 Wherever a reference to any Indian Standard appears in this code, it shall be taken as a reference to the latest version of the standard.

0.6 This standard is intended chiefly to cover the technical provisions relating to the classification of non-ferrous scrap metals and residues, and it does not include all the necessary provisions of a contract. However, certain terms of contractual nature commonly used in scrap metals trade have been explained in Appendix A for information.

1. SCOPE

1.1 This standard covers coding and classification of non-ferrous scrap metals and residues for use within the country.

1.1.1 This standard does not, however, cover coding and classification of non-ferrous pedigree scrap.

2. SUPPLY OF MATERIAL

2.1 The general requirements relating to the supply of non-ferrous scrap metals and residues shall conform to IS : 1387-1959 General Requirements for the Supply of Metals and Metal Products.

3. PACKING

3.1 Non-ferrous scrap metals and residues shall be supplied in suitable packages as agreed to between the supplier and the purchaser. The packages shall be strong and suitable for transport by road, rail or sea.

4. MARKING

4.1 Each package shall be legibly marked, with the manufacturer's name or trade-mark, code designation and the gross and tare weights; separate marking being used for each separate consignment.

SECTION I NON-FERROUS SCRAP METALS

5. ALUMINIUM SCRAP

5.1 New Pure Aluminium Clippings, Solids, Wires and Cables Excluding Steel-Cored Cables — It shall consist of new, clean

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and unalloyed aluminium scrap. It shall not contain punchings less than 12 mm in size. It shall be free from oil, grease or any other foreign matter.

Abu **5.2 Old Pure Aluminium Clippings, Solids, Wires and Cables, Excluding Steel-Cored Cables** — It shall consist of old unalloyed aluminium wire or cables containing a maximum of one percent free oxide or dirt. It shall be free from hair wire, wire screen, iron, insulation or any other foreign matter.

Adyar **5.3 Mixed Low Copper Aluminium Alloy Clippings and Solids** — It shall consist of new, clean, unpainted low copper aluminium scrap of one or more alloys and shall be free from castings, hair wire, wire screen, stainless steel, iron, dirt, oil, grease, or any other foreign matter. It shall not contain punchings less than 12 mm in size.

Agra **5.4 Mixed Old Aluminium Alloy Sheet** — It shall consist of clean old aluminium alloy sheets of one or more alloys but shall be free from zinc-aluminium alloy sheets. It shall not contain iron, dirt, oil, grease, hair wire, wire screen, or any other foreign matter. It shall be sold on the basis of sample and/or analysis.

Ajmer **5.5 Scrap Sheet and Old Wrought Aluminium Utensil** — It shall consist of clean, unpainted, old SIC or NS₃ [see IS : 737-1955 Specification for Wrought Aluminium and Aluminium Alloys, Sheet and Strip (for General Engineering Purposes)] aluminium sheet, wrought utensils, manufactured sheet aluminium, and shall not contain hub caps, radiator shells, aircraft sheet, foil, foil food containers, bottle caps, etc. It shall also be free from iron, dirt or any other foreign matter.

Akola **5.6 Steel Cored Aluminium Cables and Other Aluminium Scrap with Iron Attachments** — It shall consist of steel-cored aluminium cables and other pure aluminium scrap with easily removable iron attachments. Deductions for the weight of iron shall be made from the actual weight delivered. It shall be sold on the basis of samples.

5.7 Aluminium Pistons

Alwar **5.7.1 Clean Aluminium Pistons** — It shall consist of clean aluminium pistons free from struts, bushings, shafts, iron rings or any other foreign material. Oil and grease shall not exceed 2 percent.

Ambala **5.7.2 Aluminium Pistons with Struts** — It shall consist of clean whole aluminium pistons with struts and shall be free from

bushings, shafts, iron rings or any other foreign material. Oil and grease shall not exceed 2 percent.

Ambur **5.7.3 Irony Aluminium Pistons** — It shall be sold on recovery basis or by special arrangement with the purchaser.

Amla **5.8 Segregated Aluminium Alloy Borings and Turnings** — It shall consist of clean, uncorroded aluminium borings and turnings of one specified alloy only. Deductions shall be made for fines in excess of 3 percent through an industrial screen having an aperture of 0.900 mm and wire size of 0.375 mm (20 mesh) and for dirt, free iron, oil, moisture and all other foreign matter, from the total weight delivered. Material containing free magnesium or iron in excess of 10 percent shall not constitute good delivery.

Anand **5.9 Mixed Aluminium Alloy Borings and Turnings** — It shall consist of clean uncorroded aluminium borings and turnings of one or more alloys. Deductions shall be made for fines in excess of 3 percent through an industrial screen having an aperture of 0.900 mm and wire size of 0.375 mm (20 mesh) and for dirt, free iron, oil, moisture and all other foreign matter, from the total weight delivered. Material containing free magnesium or iron in excess of 10 percent shall not constitute good delivery. It shall be sold on the basis of definite maximum zinc content.

Ashti **5.10 Mixed Aluminium Alloy Castings** — It shall consist of clean aluminium castings which may contain automobile and aircraft castings. It shall not contain ingots and shall be free from iron, dirt, brass, babbitt metal or any other foreign material. Oil and grease shall not exceed 2 percent.

Atari **5.11 Aluminium Foil** — It shall consist of clean, pure, unalloyed new or old aluminium foil. It shall be free from paper, dirt, lead, tin solder, plastic or any other foreign matter. Paint and oxidation are permissible up to 2 percent by weight.

Avadi **5.12 Aluminium Grindings** — It shall be sold on recovery basis or by special arrangements with the purchaser.

6. BRASS SCRAP

Badli **6.1 Heavy Brass Scrap** — It shall consist of cast pieces including utensils, heavy sheet, pipe and rod cuttings of various brass alloys. No piece shall be less than 1 mm thick. It may also contain 15 percent nickel plated, tinned, chrome plated and soldered parts. Iron which is removable only with

difficulty is permissible up to a maximum of one percent. Lead attachments shall be sweated off. It shall be free from any other foreign substance.

- Bally* **6.2 Light Brass Scrap** — It shall consist of parts and appliances of all kinds of various brass alloys. It may contain iron upto 5 percent which is removable only with difficulty.
- Banda* **6.3 Old Rolled Brass Scrap** — It shall consist of clean, old pieces of yellow sheet brass including utensils and yellow tubing brass. It shall be free from excessively corroded, tinned, soldered or nickel plated material, iron oxide paint or any other foreign matter.
- Baroda* **6.4 New Brass Clippings** — It shall consist of the cuttings of new, clean, unleaded yellow brass sheets with a permissible maximum of 10 percent clean brass punchings of thickness less than 6 mm. It shall be free from muntz metal, naval brass or any other foreign matter.
- Basal* **6.5 Brass Shell and Cartridge Cases, Clean, Fired or Muffled Without Primers** — It shall consist of clean fired or muffled 70/30 brass shell and cartridge cases free from primers or any other foreign matter.
- Batala* **6.6 Brass Shell Cases with Primers** — It shall consist of clean fired 70/30 brass shell cases with the brass primers. It shall be free from any other foreign matter.
- Beas* **6.7 Yellow Brass Turnings and Borings** — It shall consist of yellow brass turnings and borings. Free iron, oil and moisture upto a maximum of 5 percent is permissible. It shall be free from aluminium, manganese, composition turnings (red brass turnings), babbitt metal and grindings of any kind. It shall be sold on the basis of sample or analysis.
- Behal* **6.8 Mixed Unsweated Automobile Radiators** — It shall consist of mixed automobile radiators free from aluminium and iron-finned radiators. Corresponding deductions for iron shall be made on the weight. Unless specified otherwise, the tonnage specification shall be based on the gross weight.
- Belur* **6.9 Roller Brass, Plated** — It shall consist of plated rolled brass sheet, pipe, tubing and reflectors. It shall be free from soldered, tinned, corroded, and painted aluminium material and material with cast brass connections.
- Bhoj* **6.10 Manganese Bronze Solids (Brass)** — It shall have a copper content of not less than 52 percent and a lead content of not

more than one percent. It shall be free from aluminium bronze and silicon bronze.

Bhona **6.11 Aluminium Bronze Solids (Brass)** — It shall have a minimum copper and aluminium content of 85 percent and 5 percent, respectively.

7. BRONZE SCRAP

Bhind **7.1 Phosphor Bronze Scrap** — It shall consist of phosphor bronze castings and rolled sections containing a minimum tin content of 4 percent and a maximum lead content of 0.5 percent. The total content of all the impurities shall not exceed one percent.

Bijoli **7.2 Gun Metal Scrap** — It shall consist of gun metal scrap, valves, machinery bearings and other machinery parts, including miscellaneous castings made of copper, tin, zinc and/or lead. No piece shall weigh more than 50 kg and no dimension shall measure more than 30 cm. Zinc and lead content shall not exceed 7 percent each.

Bina **7.3 Mixed Brass Bronze Turnings and Borings Without White Metal** — It shall consist of mixed brass and bronze turnings and borings, reasonably free from white metal turnings and/or borings. Antimony content shall not exceed 0.25 percent. It shall be sold on the basis of the sample.

Biral **7.4 Mixed Brass Bronze Turnings and Borings with White Metal** — It shall consist of mixed brass and bronze turnings and borings containing white metal turnings and/or borings. It shall be sold on the basis of sample.

Bisra **7.5 White Metal Lined Gun Metal Scrap** — It shall consist of gun metal bushings and bearings from automobile and other machinery. It shall contain not less than 12 percent of white metal (high-tin base) and shall be free from iron backed bearings.

Bulsar **7.6 High Lead Bronze** — It shall have a minimum lead content of 9 percent. It shall be sold on the basis of a sample or analysis.

Bundi **7.7 White Metal Lined Lead Bronze** — It shall consist of white metal lined rail road boxes and/or car journal bearings, and shall be free from yellow brass boxes and iron backed boxes.

Buxar **7.8 Cocks and Faucets** — It shall consist of mixed, clean, red and yellow brass with a minimum of 35 percent red brass;

chrome and nickel plated red and yellow brass is permissible. It shall be free from gas cocks and beer faucets.

8. COPPER SCRAP

- Cambay* **8.1 No. 1 Copper Wire** — It shall consist of clean, untinned, uncoated, unalloyed copper wire, cables, heavy field wire, heavy armature wire of size not less than 1.6 mm. It shall be free from burnt copper wire which is brittle, and from foreign matter.
- Chamak* **8.2 No. 2 Copper Wire** — It shall consist of miscellaneous copper wire which may contain a maximum of 15 per cent tin coated, lead coated, solder coated, enamelled wire, copper wire with soldered ends. It shall be free from hair thinner than 0.10 mm or burnt copper wire which is brittle.
- Champa* **8.3 No. 1 Heavy Copper** — It shall consist of clean, untinned, uncoated, unalloyed copper, with no dimension of any measuring more than 30 cm and with a minimum thickness of 1.6 mm. No piece shall weigh more than 5 kg. It may include clean, untinned, uncoated copper wire, copper fittings and punchings, clean copper tubings, segments including hollow wares.
- Chanda* **8.4 Firebox Copper** — It shall consist of parts of firebox taken apart with the rivets knocked out. No piece shall weigh more than 30 kg and no dimension shall measure more than 30 cm. Dirt and scale up to one percent by weight is permissible. However, in case of dirt and scale exceeding one per cent corresponding deductions in weights shall be made. The cost of cleaning shall be borne by the supplier.
- Chauki* **8.5 Mixed Heavy Copper** — It shall consist of copper clips, hollow wares, copper pipes and tubings, copper plate pieces, copper wire and segments. It may contain braze coated, solder coated, lead coated copper scrap and copper scrap with soldered ends. It shall be free from hair with thickness less than 0.10 mm, and burnt wire which is brittle. No piece shall weigh more than 50 kg and no dimension shall measure more than 30 cm.
- Chikna* **8.6 Light Copper** — It shall consist of the bottoms of kettles, boilers, bath tub linings, hair wire, burnt copper which is brittle, roofing and similar copper. It shall be free from radiator and fire extinguisher brass and bronze scrap, excessive lead and solder, readily removable iron, old electric type shells, unclean gaskets, excessive paint, tar and scale.

Chini **8.7 Copper Radiators** — It shall consist of clean, unsweated, copper radiators free from foreign matter. However, impurities to a maximum of 3 percent including one percent of iron which is removable only with difficulty, are permissible.

Chota **8.8 Copper Turnings and Borings** — It shall consist of clean copper turnings and borings, free from foreign matter. However, oil and moisture up to a maximum of one percent is permissible. Corresponding deductions in weight shall be made for oil and moisture over 3 percent.

Cochin **8.9 Copper Bhangar** — It shall consist of tinned and soldered copper articles in which zinc up to 10 percent in the alloy, and brass attachments which cannot be removed, to a maximum of 15 percent, are permissible.

9. LEAD AND TIN SCRAP

Dadar **9.1 Scrap Lead, Heavy, Soft** — It shall consist of clean, soft scrap lead, free from all foreign matter such as battery plate or parts, lead covered copper cable, foil, short lead, hard lead, dross, spatters, collapsible tubes, electro or stereotype plates, pot pieces, solder joints, zinc and dirty chemical lead. Iron and brass fittings shall be removed.

Dahej **9.2 Hard Lead Scrap** — It shall consist of hard lead scrap including molten battery plates and lugs, ornamental antimonial alloys, etc. It shall be free from zinc and dirty chemical lead or any other foreign substance.

Delhi **9.3 Whole Batteries, Drained** — It shall consist of batteries which are free from liquid and extraneous material contents. Aircraft (aluminium cased) and other special batteries shall be included subject to special agreement.

Taxila **9.4 High Tin-Base White Metal** — It shall contain a minimum of 78 percent tin and shall be free from zinc and brass. It shall be sold on the basis of sample and/or analysis.

Tenali **9.5 Mixed Common White Metal** — It shall consist of lead-base bearing metal containing not less than 4 percent tin. It shall be free from alloy containing copper or excessive zinc. It shall be sold on the basis of sample and/or analysis.

Trichi **9.6 Type Metal Scrap** — It shall consist of used and rejected type metal containing a maximum copper content of 0.2 percent. It may be in the ingotted form.

Tundla **9.7 Solder Scrap** — It shall be either lead based or tin based, with maximum antimony content of 3 percent and copper content of 0.2 percent.

10. NICKEL AND NICKEL ALLOY SCRAP

- Nabha* **10.1 Pure Nickel Scrap** — It shall consist of clippings, plate skeleton and other rolled and cast nickel scrap with a minimum nickel content of 98 percent and a maximum copper content of 0.5 percent. It shall be free from soldered, brazed, sweated, welded or painted materials.
- Nagpur* **10.2 Miscellaneous Nickel Scrap** — It shall consist of miscellaneous nickel scrap such as carbonized scrap, castings, strippings, peelings, baskets and/or turnings. It shall be packed and sold separately on the basis of analysis.
- Nagri* **10.3 Cupro-Nickel Alloy Solids Including Monel** — It shall consist of clean cupro nickel alloy solid scrap including clippings, plates, hide and other rolled and cast forms. The percentage of nickel and copper shall be specified. It shall be free from all variations of monel such as K monel, S monel, R monel, foreign attachments and all other contaminations. Mixed solids of different compositions shall be packed separately and sold on the basis of sample and/or analysis. The consignment shall be of uniform grade and form as agreed to between the purchaser and the supplier.
- Nahan* **10.4 Soldered Cupro-Nickel Alloy Solids Including Monel** — It shall consist of soldered, brazed or sweated cupro-nickel alloy solids. The percentage of nickel and copper shall be specified. It shall be free from all variations of monel such as K monel, S monel and R monel, trimmed seam edges and contaminations. Mixed solids of different compositions shall be packed separately and sold on the basis of sample and/or analysis. The consignment shall be of uniform grade as agreed to between the purchaser and the supplier.
- Nana* **10.5 Cupro-Nickel Alloy Turnings and Borings Including Monel** — It shall consist of clean and dry cupro-nickel alloy turnings and borings. The percentage of nickel and copper shall be specified. It shall be free from all variations of monel such as K monel, S monel and R monel and foreign contaminations. Mixed turnings of different compositions shall be packed separately and sold on the basis of sample and/or analysis. The consignment shall be of uniform grade as agreed to between the purchaser and the supplier.
- Naini* **10.6 Miscellaneous Nickel Copper and Nickel Copper Iron Scrap** — It shall consist of miscellaneous scrap, in which the chief constituents are nickel and copper, in the form of copper nickel peelings, platings, racks and hangers. Nickel and

copper shall be in the attached or combined form. It shall be sold by description and analysis.

Nasik **10.7 Nickel Silver Clippings and Solids** — It shall consist of clean nickel silver clippings, plates, rods, forgings and rolled shapes. It shall not contain castings and shall be free from chromium or other plating material. It shall be sold on the basis of nickel content. Leaded nickel silver material shall be separately packed and sold.

Neoli **10.8 Old Nickel Silver** — It shall consist of either soldered or unsoldered old nickel silver sheets, pipes, rods, tubes, wire screen, cutlery or utensils. It shall not be trimmed seams alone. It shall be free from iron rimmed material or other foreign substances.

Nira **10.9 Nickel Silver Castings** — It shall be packed and sold on the basis of sample and/or analysis.

Niwar **10.10 Nickel Silver Turnings and Borings** — It shall be reasonably dry containing not more than 2 percent of moisture and oil. It shall be free from iron and all other foreign contaminations. It shall be sold on the basis of nickel content. Leaded nickel silver turnings and borings shall be packed and sold separately.

11. ZINC SCRAP

Salem **11.1 Zinc Die Cast Scrap** — It shall consist of miscellaneous zinc base die castings with or without iron attachments. It shall be free from borings, turnings, dross pieces or chunks. All attachments that do not melt with the die cast shall be deducted from the weight. Material containing iron in excess of 25 percent shall not constitute a good delivery.

Sakti **11.2 Zinc Die Cast Scrap Without Iron** — It shall consist of clean zinc based die castings. It shall be free from iron, foreign attachments, plated or painted material.

Simla **11.3 Old Scrap Zinc** — It shall consist of old, clean, dry scrap zinc such as sheets, jar lids, clean unalloyed castings, etc, and shall be free from battery zinc, die castings, and excessively oxidised material. Deductions for all extraneous materials present shall be made.

Summit **11.4 New Zinc Clippings** — It shall consist of clean, pure, zinc sheets and stampings and shall be free from foreign attachments and contaminations. Printers zinc such as engravers

zinc, lithograph sheets and addressograph plates shall be sold subject to special arrangement.

Surat

11.5 Zinc Dross — It shall consist of galvanisers unsweated zinc dross in regular or mushroom shaped ingots containing a minimum of 92 percent zinc. Ingots shall not weigh over 50 kg each. Small broken parts shall not exceed 10 percent of the weight of the ingots and no fines shall be included.

SECTION II METALLURGICAL RESIDUES — SLAGS, SKIMMINGS, DROSSES, ETC

12. GENERAL

12.1 Metal content in metallurgical residues including precious metals drosses, are mostly present in the form of oxides, silicates, sulphates, etc, or in the form of such admixtures of various constituent parts from which recovery of metals is possible only through smelting and refining and not by the simple operation of melting. The residues may contain up to 25 percent of free metals in a finely dispersed state which is not recoverable by mechanical sorting. All transactions of these articles will be based on the contents of recoverable metals as well as harmful impurities. Sales shall be governed by sampling and analysis carried out by competent laboratory mutually agreed to between the purchaser and the supplier.

12.2 The list of metallurgical residues given in this standard is by no means exhaustive and there would be various other types of drosses, ashes, skimmings and residues which cannot be classified under any of the categories enumerated under 13 and 14. All such arisings shall be sold on the basis of sample and/or analysis.

13. TERMINOLOGY

13.0 For the purpose of this standard, the following definitions shall apply.

13.1 Ashes, Blowings — These are oxides and are similar in nature to residues/skimmings (*see 13.4*) except that the ashes and blowings are more finely divided. These arise out of the direct oxidation of metals during melting, sherardizing or similar processes.

13.2 Clinkers/Slags — These are metallic lumps that are comparatively less dense and more brittle and contain metals mostly in combination as oxides, silicates, chlorides, etc.

13.3 Dross — These are heavy dense metallic lumps comprising mostly of free metals.

13.4 Residues/Skimmings — It is a finely divided conglomerated or unconglomerated mass consisting mainly of metals in combination with impurities like chlorine, sulphur, silica, oxygen, etc. Residues are the left-overs in the pots, whereas skimmings are laddled out from molten metals as surface impurities.

13.5 Slimes/Tailings — It is a finely divided mass recovered by washings of inferior grades of residues and also from the bottom of electrolytic plants. Free metallic contents are usually very low and material in original form may have high moisture content, up to 25 to 30 percent by weight.

14. RESIDUES, SLAGS, SKIMMINGS, ETC

- Gaya* **14.1 Brass Remelters' Residues** — These are residues arising in the process of brass melting. These may contain 5 to 25 percent copper, 30 to 60 percent zinc, with or without small quantities of other elements such as nickel, tin, aluminium, lead, chlorine, sulphur, etc.
- Guntur* **14.2 Bronze Residues and Skimmings** — These are residues and skimmings arising in the bronze foundry. These may contain 10 to 50 percent of copper, 2 to 5 percent tin, with or without small quantities of other elements such as zinc, nickel, aluminium, lead, chlorine, sulphur, etc. Concentrates shall not be included as they cannot be technically termed as metallurgical residues.
- Kalka* **14.3 Copper Residues** — These are residues arising from melting and refining of copper. These may contain 10 to 50 percent copper, up to 10 percent zinc, with or without nickel, zinc, sulphur, chlorine, etc.
- Kamli* **14.4 Copper Scales** — These are oxidized copper scales and powder arising from the process of hot rolling of copper sheets, rods, etc. These may contain 50 to 85 percent copper with or without nickel, zinc, sulphur, chlorine, etc.
- Kanpur* **14.5 Lead Slags** — These are arisings from the refining of battery lead and other similar processes. These may contain 35 to 50 percent lead, 3 to 7 percent antimony and up to one percent tin.
- 14.6 Lead, Tin, Antimony Alloy Ashes, Dross and Skimmings** — The arisings originating from soft alloy works are subject

to variations of constituents depending on the articles produced and the efficiency and nature of the processes involved. Therefore, it is suggested that the arisings are sold as individual lots based on its particular composition. Two major grades of these arisings are classified as in **14.6.1** and **14.6.2**.

- Kashi** **14.6.1 Solder Ashes** — These are arisings from manufacture of soft solders. These may contain 10 to 35 percent each of tin and lead, 10 percent zinc, and 5 percent chloride with or without small quantities of bismuth, arsenic, antimony, copper, etc, as impurities.
- Katni** **14.6.2 White Metal Ashes** — These are arisings from the manufacture of high and low tin white metal. It may contain 30 to 45 percent lead, 5 to 25 percent tin, 5 to 15 percent antimony and up to 15 percent copper. Zinc and other elements shall be below 5 percent.
- Kauli** **14.7 Tin Ashes** — These are arisings from melting of tin and high tin babbitt metal. These may contain 50 to 80 percent tin with or without small percentage of lead, antimony, copper, etc.
- Kesri** **14.8 Detinning Slimes** — These are arisings from the detinning of tinplates. These may contain 20 to 45 percent tin, 15 to 25 percent iron, 2 to 5 percent aluminium, and a maximum 3 percent of other elements excluding siliceous matters and combined oxygen.
- Khanna** **14.9 Zinc Blowings and Horn** — These are residues chiefly arising from the process of sherardizing and oxide manufacture. It may contain over 80 percent zinc and a maximum of one percent chlorine plus sulphur. Blowings usually consist of fines, while horns are of pebble size.
- Khurja** **14.10 Zinc Galvanisers' Ash** — These are zinc ashes and overflow arising at galvanizer's works. It may contain zinc over 55 percent, chlorine plus sulphur upto a maximum of 6 percent; lead, iron and aluminium up to a maximum of 6 percent, 5 percent and 2 percent, respectively.
- Kolar** **14.11 Zinc Remelters' Ash** — These are zinc ashes accumulating at smelter's work. It may contain zinc over 55 percent, aluminium one percent maximum and chlorine plus sulphur two percent maximum.
- Kotah** **14.12 Zinc Flux Skimmings** — These are flux skimmings accumulating at galvanisers' work. It shall have a minimum zinc content of 40 percent and up to 20 percent chlorine.

Kurla **14.13 Zinc Clinkers** — These are arisings mainly from direct burning of zinc slabs in zinc oxide plants. These are lumpy brittle material containing 25 to 35 percent zinc.

Mysore **14.14 Zinc White Metal** — These are arisings mainly as scrap and/or remelted ingots from underwater cable connections and are of the following chemical composition:

<i>Constituents</i>	<i>Percent</i>
Zinc	20 to 55
Tin	10 „ 60
Antimony	5 „ 15
Copper	2 „ 10
Lead	Remainder

Pamban **14.15 Hard Metal (Glanz Metal)** — These are arisings mainly from reconditioning of bronze and bearing metals in the form of lumps and/or remelted ingots, and are of the following composition:

<i>Constituents</i>	<i>Percent</i>
Copper	15 to 40
Antimony	10 „ 30
Tin	7 „ 40
Zinc	1 „ 8
Lead	Remainder

15. PRECIOUS METAL DROSSES

Tamdi **15.1 Metallic Drosses** — These are arisings from the refining of auriferous silver, in the form of lumps and broken pieces. These may contain 40 to 60 percent copper, 30 to 55 percent lead, about 0.5 to one percent silver and 30 to 155 grams of gold per tonne of material.

Kharad **15.2 Oxidised Drosses** — These are arisings mainly from the refining of auriferous silver in the form of lumps and broken pieces, which are usually brittle. These may contain 55 to 75 percent lead, 5 to 10 percent copper, 0.5 to one percent silver and a maximum of 8 to 30 grams of gold per tonne of material.

Jarit **15.3 Jari Thread Waste** — This is silver or gold plated jari thread waste. It may contain copper over 85 percent, silver

up to 5 percent and from zero to 155 grams of gold per tonne of material.

Mint

15.4 Mint Residues — These are arisings from smelting and refining of precious metal in the form of slags and skimmings. It may contain up to 310 grams of gold and 1 550 to 6 200 grams of silver per tonne of material. It may not contain any other recoverable metal.

APPENDIX A

(Clause 0.6)

CONDITIONS OF SALE

A-1. GENERAL

A-1.1 Unless specified otherwise, a tolerance of plus or minus 1.25 percent on the quantity to be delivered is permissible.

A-1.2 If the terms ' about ' is used, a tolerance of plus or minus 5 percent on the quantity to be delivered shall be permissible.

A-2. DELIVERY

A-2.1 Should the supplier fail to make delivery as specified in the contract, the purchaser has the option of cancelling the whole of the incomplete delivery or holding the supplier responsible for whatever damage the purchaser may sustain through non-delivery.

A-2.2 If through unforeseen circumstances, delivery could not be made within the time limit specified, the contract shall remain valid and shall be completed immediately on the lifting of such conditions.

A-2.3 In case of dispute about difference in weight and the purchaser is not willing to accept the supplier's weights, a sworn public weigher shall be employed and the party most in error shall pay the cost of handling and re-weighing.

A-2.4 When the material is such that it can be sorted by hand, consignees shall not reject the entire parcel, if the percentage of rejections does not exceed 20 percent. The disposal of rejected material should then be arranged by negotiations. No replacement of the rejected material shall be made by the supplier.

A-3. DISPUTES

A-3.1 If either of the party is unable to agree on the amount of damages (*see A-2.1*), the dispute shall be referred to an arbitration committee.

A-3.2 If the purchaser and the supplier disagree about the goods satisfying the quality specifications of the contract, the matter shall be referred to an arbitration committee.

A-3.3 The arbitration committee shall be set up in accordance with the provisions of the Indian Arbitration Act, 1940 and of the rules thereunder and any statutory modifications thereof.

A-3.4 Unless agreed to otherwise between the parties, the cost of arbitration and other incidental expenses shall be borne by the loser of the two parties in dispute.

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